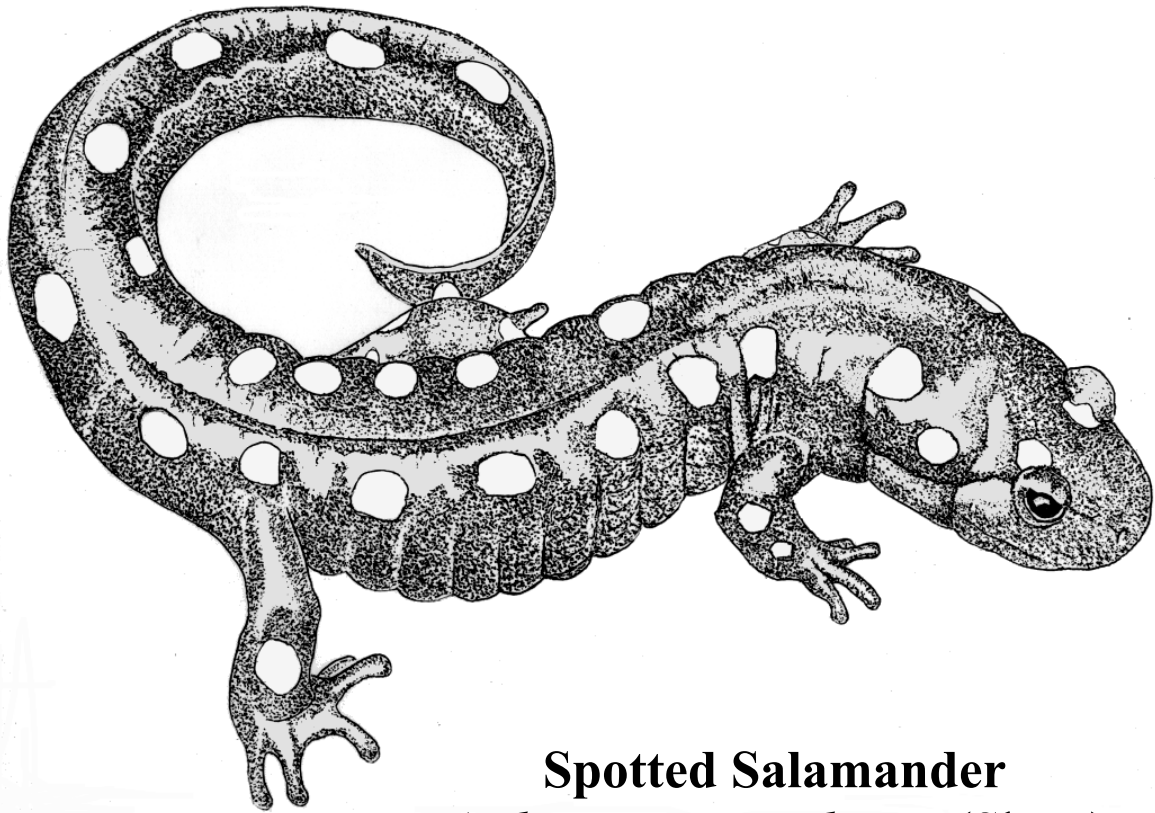


Virginia's Wildlife

Species Profile



Spotted Salamander
Ambystoma maculatum (Shaw)

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Virginia's Wildlife Species Profile: Spotted Salamander

Virginia Distribution: Widely distributed except for southeast

Characteristics

Spotted salamanders are amphibians belonging to the family Ambystomidae, better known as the mole salamanders. They are relatively large, robust salamanders with two irregular rows of yellow to yellowish-orange spots on a steel gray or black back. The spots extend from the head to the tip of the tail. Adults attain lengths of 4-7 inches with the largest recorded specimen reaching 9 inches. There are 11-13 costal grooves along their sides between the front and back legs. Larvae have external gills that are lost during transformation to adults. Larvae are dull olive to green and lack conspicuous markings.

Feeding

Adults feed on earthworms, mollusks, spiders, insects, and even other salamanders. Isopods, amphipods, ostracods, dragonfly larvae, and beetles comprise the diet of the aquatic larvae.

Habitat and Distribution

This Virginia native species generally occurs statewide except for the Eastern Shore and localities southeastward from Suffolk, Newport News, and Hampton. There are no records of this species from the extreme southwestern portion of the Commonwealth, though they probably occur in appropriate habitats. Spotted salamanders are most common in bottomland forests, occurring sporadically in upland forests and mountainous regions. Breeding adults and larvae can be found in ephemeral, fish-free habitats such as vernal pools, swamps, roadside ditches, and flooded tire tracks. They occasionally use permanent ponds. Mature deciduous forests offer optimal habitat.



Figure 1. Spotted salamander distribution in Virginia and the United States.

FACT: Research has shown that a band of deciduous forest up to 820 feet wide around breeding ponds is essential to maintaining healthy populations of spotted salamanders.

Reproduction

During late winter and early spring, spotted salamanders migrate to their preferred nesting ponds. Within 2-3 days after mating, females deposit a firm, ovoid egg mass on twigs, tree branches, and aquatic plants. Larvae hatch after an incubation period of 4 to 7 weeks, depending on temperature. Most larvae transform from June to August, but slow-growing larvae in some populations overwinter and transform the following spring and summer.

Threats

The primary threats to spotted salamander populations include degradation of breeding sites through drainage, water pollution, fish introductions, and natural succession. Recent decline of spotted salamander populations in eastern Virginia may in part be a consequence of low pH and elevated metal concentrations associated with acid precipitation. Alteration of local hydrology may decrease the period during which water is available in breeding ponds and thereby reduce larval survivorship.

Local populations of spotted salamanders and other *Ambystoma* species are becoming increasingly isolated as habitat fragmentation, deforestation, and loss of breeding ponds reduce gene flow among populations. Also, as roads separate adults from their breeding ponds, greater numbers of salamanders may be killed each year by vehicles.

Morphology: Lizard vs. Salamander

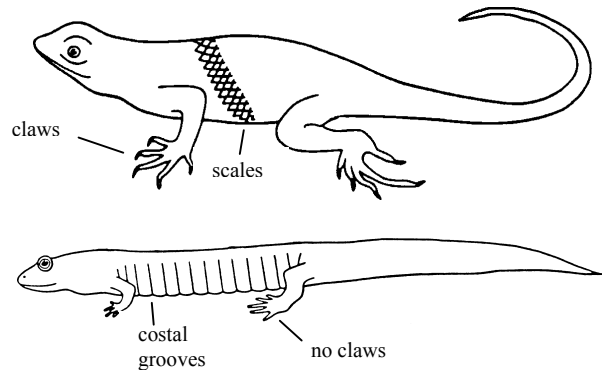


Figure 2. Lizards are scaly and have claws; salamanders have smooth skin and lack claws.

For additional information, consult *Salamanders of the United States and Canada* by JW Petranka, *Atlas of Amphibians & Reptiles in Virginia* by JC Mitchell and KK Reay, and *Peterson Field Guide Series: Reptiles and Amphibians - Eastern/Central North America* by R Conant and JT Collins.

Citation: Pinder, MJ. 1999. Spotted salamander: *Ambystoma maculatum* (Shaw). Virginia's wildlife species profile No. 020049.1 (Fernald RT, series editor). Richmond: Virginia Department of Game & Inland Fisheries. (The spotted salamander illustration on the front cover is by the author.)